Impact assessment

National Policy Statements for nuclear energy generation (EN-7): appraisal of sustainability - post adoption statement

1. Introduction

1.1. Background

This document is the Post Adoption Statement of the Appraisal of Sustainability (AoS) for the new National Policy Statement (NPS) for nuclear energy generation, EN-7. The new NPS sets out the government's policy for delivery of infrastructure using nuclear fission to generate energy, as well as to any infrastructure ancillary to this (including that set out in relevant provisions of the Scope of the Overarching National Policy Statement for Energy section of EN-1) that is:

A. defined as a Nationally Significant Infrastructure Project by the Planning Act 2008 (as amended),
B. treated as development for which Development Consent is required according to Section 35 and 35ZA of the Planning Act 2008 (as amended).

The need for nuclear energy infrastructure is established by EN-1.

The AoS that was undertaken concerning the NPS fulfilled 2 primary functions:

- The Environmental Assessment of Plans and Programmes Regulations 2004 (as amended), known as the Strategic Environmental Assessment (SEA) Regulations, require that before a plan or programme which establishes the framework for development consent is adopted, it should be subject to consultation alongside an environmental report which identifies, describes and evaluates the significant effects which its implementation is likely to have on the environment. Amongst other things, the energy NPS is a plan or programme for the purposes of the Regulations, and so an SEA was undertaken (as part of the wider AoS) alongside the development of the NPS to fulfil the function of an environmental report under the Regulations.

- The Planning Act requires that NPSs must be the subject of an AoS before designation. The scope of such an appraisal is similar to that of an environmental report under the SEA Regulations, but with more emphasis on social and economic effects, and informed overall with the principles of sustainable development (often summarised as ensuring that development meets the needs

of the present without compromising the ability of future generations to meet their own needs).

By requiring the AoS to be produced alongside the NPS while still under preparation, the SEA Regulations and Planning Act aim to ensure that consultees are able to review and comment on the NPS with a sense of what it would mean in environmental and wider sustainability terms for a new generation of large-scale energy infrastructure to be built in accordance with decisions made on Planning Act applications for development consent, which will be decided on the basis of the energy NPS.

The AoS was undertaken in a staged approach as follows:

- Stage A – Scoping
- Stage B – Development and refining options and assessing effects
- Stage C – Preparing the AoS Report
- Stage D – Consulting on the NPS and AoS Report
- Stage E – Monitoring

See Section 3 for more detail on how the NPS was influenced by each of these stages of the AoS.

1.2. Purpose of this Post Adoption Statement

Part 4 of the SEA Regulations requires that information on the NPS, as well as how the SEA has been taken into account, should be published on adoption. Note that while the SEA Regulations focus on environmental effects, the AoS covers a wider remit, with an additional focus on social and economic effects alongside environmental ones and this statement covers the 3 types of effects.

The purpose of the Post Adoption Statement is thus to describe:

- How sustainability considerations (including environmental) have been integrated into the NPS;
- How the AoS Report has been taken into account in preparation of the NPS;
- How the opinions expressed in the consultation on Scoping Report and the AoS Report have been taken into account;
- The reasons for choosing the NPS as adopted, in the light of other reasonable alternatives considered;

- The measures that are to be taken to monitor the significant sustainability effects (including significant environmental effects) of the implementation of the NPS.

This Post Adoption Statement is the last of three formal documents that have been produced as part of the AoS process, the first being the Scoping Report (January 2024) that set out the scope of the assessment and documents how the initial AoS Framework is identified. The second document was the AoS Report which was published for public consultation in February – April 2025 and has been published alongside the NPS on 12 November 2025.

In addition, another separate document informed the preparation of the AoS Report: Habitats Regulations Assessment (HRA) Report also published alongside the AoS and NPS on 12 November 2025.

The HRA Report was prepared for the draft NPS in a parallel process to the AoS and was the subject of public consultation alongside the draft NPS and the AoS Report in February 2025.

In England and Wales, under the Conservation of Habitats and Species Regulations 2017 (as amended), as well as the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended) (together known as the 'Habitats Regulations') an 'Appropriate Assessment' is required to be undertaken on proposed plans or projects which are not necessary for the management of a habitat site but which are likely to have a significant effect on one or more habitat sites either individually, or in combination with other plans or projects.

It is important to note that the Habitats Regulations require assessment of the NPS as a plan and as such the HRA has been undertaken on that basis – this does not remove the requirement for detailed project level HRAs to be undertaken at development consent stage. There are no specific sites, allocations or any spatial component to the NPS; therefore, the HRA has purely focused on the policy content within the NPS and has been applied in a manner which is consistent with their non-spatial, strategic nature.

While the lack of spatial information within the NPS made it impossible to reach certainty on the effect of the plan on the integrity of any habitat site, the potential for proposed energy infrastructure projects of the kind contemplated by EN-7 to have adverse effects on the integrity of such sites cannot be ruled out, based on the precautionary principle. The HRA explains why the government considers that EN-7 is, nevertheless, justified by imperative reasons of overriding public interest, while noting that its conclusions are only applicable at the NPS level and are without prejudice to any project-level HRA, which may result in the refusal of consent for a particular application.

This Post Adoption Statement should be read in conjunction with the NPS and AoS Report published on 12 November and details the following:

Table 1.1 - How the Post Adoption Statement meets legislative requirements

Purpose of the Post Adoption Statement	Where is this demonstrated in the Post Adoption Statement?
How environmental considerations have been integrated into the NPS	Section 2 sets out how environmental considerations were taken into account and notes that the cornerstone of doing this was through a comprehensive AoS Framework and its application through the assessment process.
How the AoS Report has been taken into account in preparation of the NPS	Section 3 notes how the AoS Report was taken into account. This section provides detail on key recommendations made through the AoS process.
How the opinions expressed in consultation have been taken into account	Section 4 notes that consultation took place in respect of the Scoping Report and AoS Report and gives detail regarding how these responses were addressed.
The reasons for choosing the NPS as adopted, in light of other reasonable alternatives considered	Section 5 sets out how consideration was made in the AoS in respect of a range of Alternatives to the NPS. Overall, it was shown that none of the alternatives presented were as good as, or better than, the adopted NPS.
The measures that are to be taken to monitor the significant environmental effects of the implementation of the NPS	Measures to monitor significant effects are set out in Section 6. It is the intention that monitoring will focus upon significant effects that may give rise to irreversible damage, with a view to identifying trends before such damage is caused, and also significant effects where there was uncertainty in the AoS and where monitoring would enable preventative or mitigation measures to be undertaken.

2. How sustainability considerations have been integrated into the National Policy Statement on nuclear energy, EN-7

The NPS that is the subject of the AoS, EN-7, is concerned with the development of nuclear energy infrastructure in England and Wales.

In addition to the generic and overarching needs case and issues set out in EN-1, which aim to support the sustainable development of all types of energy infrastructure, EN-7 sets out specific sustainability considerations pertinent to nuclear fission energy technologies.

All energy infrastructure proposals that are subject to the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) must be accompanied by an Environmental Statement (ES) describing the aspects of the environment likely to be significantly affected by the project.

The EIA Regulations specifically refer to effects on population, human health, biodiversity, land, soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them.

The EIA Regulations also require an assessment of the likely significant effects of the proposed project on the environment, covering the direct effects and any indirect, secondary, cumulative, transboundary, short, medium, and long-term, permanent and temporary, positive and negative effects at all stages of the project, and also of the measures envisaged for avoiding or mitigating significant adverse effects.

It is also the case that the NPS requires consideration of the potential environmental effects of a proposed project to be made even in those cases where the EIA Regulations do not apply and an ES is not required. In these circumstances, the applicant should instead provide information proportionate to the scale of the project on the likely significant environmental, social, and economic effects.

Therefore, it can be concluded that environmental considerations have been included in the NPS in a comprehensive and robust fashion from the very earliest stages of NPS development. The AoS process ensured that all relevant aspects were considered, tested and added as necessary to ensure the framework for the development of new nuclear energy nationally significant energy infrastructure projects was consistent with the objectives for sustainable development.

3. How the AoS Report was taken into account in developing the NPS

The AoS was developed alongside EN-7 in an iterative fashion, with environmental and wider sustainability considerations made in each stage. The AoS Framework of objectives and guide questions was a fundamental component of the AoS and was used as a mechanism to consistently test the environmental and wider sustainability performance of the NPS with all appropriate issues addressed (these are listed below). The AoS Framework was developed during the scoping stage and applied during the assessment of the NPS stage.

1. Reducing carbon emissions to Net Zero

Will the new nuclear NPS…

- Reduce carbon emissions of the national portfolio of major energy infrastructure?
- Reduce direct and indirect emissions of all greenhouse gases, including carbon dioxide, during construction, operation and decommissioning?
- Use carbon removals to offset residual emissions from energy such Negative Emissions Technologies (NET) and Nature Based Solutions (NBS)?
- Create new carbon sinks/removals through natural sequestration including that by natural habitats, blue-green infrastructure and soils?

2. Maximise adaptation and resilience to climate change

Adaptation is about taking steps to live with the effects of climate change such as building quay walls and flood barriers. Resilience is the ability of a system to adsorb and bounce back after an adverse event.

Will the new nuclear NPS…

- Promote future proofing against the effects and risks of climate change (e.g. flooding, sea level rise, coastal erosion and change in weather patterns)?
- Encourage design for successful adaptation to the predicted changes in weather conditions and frequency of extreme weather events (freezing, heat waves, intense storms)?
- Address the climate induced risks of cascading failures from interdependent infrastructure energy networks?

- Lead to major infrastructure development that is flood resilient over its lifetime, considering the effects of climate change, without increasing the flood risk elsewhere and identifying opportunities to reduce the risk overall?
- Avoid inappropriate development in areas at risk from flooding and coastal erosion?
- Ensure provision of appropriate compensatory measures is in place when there is no other option to land take from areas of flood plain?
- Manage the risks of flooding and coastal erosion, particularly through working with natural processes?

3. Enhance biodiversity and ecological networks, deliver biodiversity net gain, protect and support ecosystem resilience and functionality

Will the new nuclear NPS…

- Protect and enhance nationally designated sites such as SSSIs, National Nature Reserves, Marine Conservation Zones, Marine Protection Areas and Highly Protected Marine Areas, including those of potential or candidate designation?
- Protect and enhance valued habitat and populations of protected/scarce species on locally designated sites, including Key Wildlife Sites, Local Wildlife Sites and Local Nature Reserves?
- Protect the structure and function/ecosystem processes, including in the marine environment?
- Protect and enhance the Nature Recovery Network?
- Protect and enhance priority habitats, and the habitat of priority species?
- Reduce or avoid impacts to habitats with important roles in carbon sequestration?
- Promote new habitat creation or restoration and linkages with existing habitats?
- Encourage sensitive or nature inclusive design in terrestrial and marine environments?
- Ensure energy activities protect fish stocks and marine mammals?
- Ensure energy activities do not exacerbate disturbance to bird populations?
- Deliver a minimum 10% net gain in biodiversity for any new major infrastructure development?
- Increase the resilience of biodiversity to the potential effects of climate change?

- Prevent spread of invasive species (native and non-native), including new invasive species because of climate change?

4. Protect and enhance sites designated for their international importance for nature conservation purposes

(linked to separate HRA process for the new nuclear NPS)

Will the new nuclear NPS…

- Avoid the loss of sites of international importance (SPAs, SACs and Ramsar sites), including those of potential designation (candidate SPAs, proposed SACs, Sites of Community Importance (SCI) and proposed Ramsar sites) both onshore and offshore?
- Support continued improvements to the condition status of the UK's national site network?

5. Protect and enhance cultural heritage assets and their settings, and the wider historic environment

Will the new nuclear NPS…

- Conserve and enhance designated heritage assets and their settings (World Heritage Sites, Scheduled Monuments, Listed Buildings and structures, Registered Parks and Gardens, Registered Battlefields and Conservation Areas), as well as maritime assets such as protected wrecks?
- Conserve and enhance non-designated and / or locally listed heritage assets (including newly discovered heritage assets and archaeology) and their settings?
- Address heritage assets at risk, or protect them from further threats?
- Avoid significant harm to heritage assets, for example from the generation of noise, pollutants and visual intrusion?
- Ensure appropriate archaeological assessment prior to development?
- Maintain or improve the interpretation, understanding and appreciation of the historic environment?
- Increase public access to heritage assets?

6. Protect and enhance the character and quality of the landscapes, townscapes and waterscapes and protect and enhance visual amenity

Will the new nuclear NPS…

- Ensure avoidance of development in National Parks and National Landscapes (formerly AONBs)?
- Support the integrity of any areas designated for landscape value and natural beauty, including in conjunction with the provisions of any relevant Management Plan (e.g. National Parks, National Landscapes, Heritage Coasts and local landscape designations)?
- Conserve and enhance the intrinsic character or setting of local landscapes or townscapes or waterscapes?
- Minimise noise and light pollution from construction and operational activities on residential amenity and on sensitive locations, receptors and views?
- Prevent reduced tranquillity /preserve tranquillity?
- Conserve, protect and enhance natural environmental assets (e.g. parks and green spaces, common land, woodland / forests etc) where they contribute to landscape and townscape quality?

7. Protect and enhance the water environment:

Will the new nuclear NPS…

- Protect ground, surface, estuarine and coastal water quality in line with Water Framework Directive and Marine Strategy Framework requirements?
- Result in changes to groundwater distribution and flow?
- Safeguard the availability of water resources (surface and groundwater)?
- Minimise the use of water resources / water consumption?
- Protect the integrity of coastal and estuarine processes?
- Reduce operational and accidental discharges to the water environment?
- Protect the quality of the seabed and its sediments, and avoid significant effects on seabed morphology and sediment transport processes?

8. Protect and enhance air quality:

Will the new nuclear NPS…

- Minimise emissions of dust and other air pollutants that affect human health or biodiversity?
- Improve air quality within Air Quality Management Areas (AQMA) and avoid the need for new AQMAs?
- Promote enhancements to green infrastructure networks to help improve air quality?

9. Protect soil resources, promote use of brownfield land and avoid land contamination

Will the new nuclear NPS…

- Assist in facilitating the re-use of previously developed land?
- Avoid the loss of Best and Most Versatile agricultural land?
- Ensure the protection of soil resources reduce soil quality degradation?
- Seek to remediate contaminated land?

10. Protect, enhance and promote geodiversity

Will the new nuclear NPS…

- Protect and enhance geodiversity resource?
- Protect or enhance SSSIs designated for their geological interest?
- Avoid the degradation and removal, wherever possible, of RIGS?
- Protect geodiversity on the shoreline and marine waters?
- Support access to, interpretation and understanding of geodiversity?

11. Improve health and well-being and safety for all citizens and reduce inequalities in health

Will the new nuclear NPS…

- Prevent accidental radioactive discharges or exposure to radiation, including interim storage of waste that may adversely affect the health of local communities?
- Lead to concerns / perception of increased risk?
- Minimise issues that can affect communities and their facilities including air, noise and light pollution, as well as vibration?
- Result in the loss of recreational and amenity land or loss of access?

- Provide for facilities that can promote more social interaction and a more active lifestyle and enjoyment of the countryside and coasts?
- Promote initiatives that enhance safety and personal security for all?
- Reduction of inequalities between different groups in society?

12. Promote sustainable transport and minimise detrimental impacts on strategic transport network and disruption to basic services and infrastructure

Will the new nuclear NPS…

- Prevent adverse changes to strategic transport infrastructure road/rail/airport?
- Prevent loss or disruption to basic services and infrastructure (e.g. electricity, gas)?
- Promote transportation of goods and people by low/zero carbon transport modes?
- Reduce travel distances to work and reduce the need for out commuting?

13. Promote a strong economy with opportunities for local communities:

Will the new nuclear NPS …

- Support enhanced security, reliability and affordability of the national energy supply?
- Support creation of both temporary and permanent jobs and increase skills, particularly in areas of need?
- Have wider socio-economic effects such as changes to the demographics, community services, house prices and land values?
- Have disproportionate effects on specific groups?
- Delivery of infrastructure to support economic investment in the local economy?

14. Promote sustainable use of resources and natural assets:

Will the new nuclear NPS…

- Provide for safe and secure interim storage of nuclear and other wastes where necessary?
- Reduce consumption of materials, energy and resources?

- Promote sustainable waste management practices in line with the waste hierarchy?
- Encourage the use of recycled and / or secondary materials?
- Encourage the development of a circular economy?
- Promote the use of low carbon materials and technologies?
- Produce waste by-products that require appropriate management?
- Promote the use of local suppliers that use sustainably-sourced and locally produced materials?

3.1. Stage A: Scoping

The AoS process for the NPS began in 2023, with the production of a Scoping Report which presented the output of the following tasks:

- Policies, plans and programmes of relevance to the NPS were identified and the relationships between them were considered, enabling any potential synergies to be exploited and any potential inconsistencies and incompatibilities to be identified and addressed.
- In line with the requirements of the Strategic Environmental Assessment (SEA) Regulations, baseline information was collated on the following 'SEA topics': greenhouse gas emissions; biodiversity and ecosystems; communities (population, employment and viability); communities (supporting infrastructure); health and well-being; landscape, townscape and seascape; air quality and noise; soils, geology and land use; water quality and resources; adaption to climate change; resources and waste. As AoS is concerned with wider sustainability issues, rather than just the environment, data on social and economic issues were also collated. This baseline information provided the basis for predicting and monitoring the likely effects of the NPS and helped identify alternative ways of dealing with any adverse effects identified.
- Drawing on the review of relevant plans, policies and programmes and the baseline information, key sustainability issues for the spatial area of the NPS (England and Wales), along with the United Kingdom as a whole as appropriate (including environmental problems, as required by the SEA Regulations). Consideration was given to the likely evolution of each issue if the NPS were not to be implemented.
- An AoS Framework was then developed, setting out the AoS objectives against which the NPS was subsequently appraised. The AoS Framework provides a way in which the sustainability impacts of implementing a plan can be described, analysed, and compared. It comprises a series of

sustainability objectives and guide questions that have been used to 'interrogate' draft policies during the plan-making process. These AoS objectives define the long-term aspirations of the NPS with regard to social, economic, and environmental issues in relation to energy development in England and Wales. During the AoS, the 'performance' of the developing NPS was assessed against these AoS objectives and guide questions.

- The review of relevant plans, policies and programmes and the baseline information was updated as necessary during each stage of the AoS process to ensure that they reflected the most recent situation in and continued to provide an accurate basis for assessing the likely effects of the NPS.

Public and stakeholder participation was an important element of the NPS process. It helped ensure the robustness of the AoS report and that it had due regard for all appropriate information needed to support the NPS in making a contribution to sustainable development. The AoS Scoping Report for the NPS was published for consultation over the period 11 January 2024 to 10 March 2024.

A series of consultation responses from a range of organisations were received to the AoS Scoping Report. How these responses were considered and taken into account is outlined below in Section 4.

3.2. Stage B: Development and refining options and assessing effects

Assessment was made of each of the components of the NPS against each of the AoS Objectives.

Inter-relationships between topics and likely significant secondary, synergistic and cumulative effects were also reported where appropriate in each topic. Where significant adverse effects were predicted, possibilities for mitigation were suggested.

3.2.1. Recommendations made by the AoS

A key element of the AoS process is to make recommendations to plan makers in respect of how the plan can be strengthened in sustainability terms.

Recommendations for clarifying and strengthening of the NPS were discussed within government in an iterative fashion.

The following provides an overview of those key recommendations made and how these have been addressed in the NPS.

Recommendation	Response
Early recommendation to set out a clear approach to site selection to ensure consideration of environmental issues	Running through EN-7 is the requirement for applicants to consider factors that Influence Site Selection early in the process to eliminate unsuitable locations, and to identify sites which are advantageous from multiple perspectives. In addition to cross referencing to EN-1 (where such matters are considered in detail), these factors are expanded upon at length in EN-7, with note being made of flooding, coastal and landform change, proximity to civil aircraft and spacecraft movements, biodiversity and geological conservation, landscape value, heritage significance and historic environment, the size of site, and the use of water and impact on water bodies.
Early recommendation to set out clearly in EN-7 which nuclear infrastructure is included	Section 1.6 of EN-7 sets out the infrastructure covered by this NPS.
Recommended that a separate theme is added to recognise that infrastructure can have adverse effects on air quality – for example the construction, operation and decommissioning phases can involve emissions to air which could lead to adverse impacts on health, on protected species and habitats or on the wider countryside and species' as set out in paragraph 5.2.1 of EN-1 and that the applicant must follow the generic requirements set out in section 5.2 Air Quality and emissions of EN-1'.	EN-7 was amended to provide reference to Section 5.4 of EN-1 which sets out the guidance on biodiversity and geological conservation considerations, and Section 5.2 of EN-1 sets out the guidance on air quality and emissions, which have impacts on biodiversity. Further related guidance on environmental and biodiversity net gain is set out in Section 4.6 of EN-1. Cross reference is also now made in EN-7 that the applicant must implement the mitigation hierarchy as set out in EN-1 to protect the environment and biodiversity, including relevant measures to mitigate the biodiversity impact of air quality and emissions.
Recommended that note is made of Invasive species in EN-7 and how these should be addressed	It was considered that reference to Invasive species was better addressed via EN-1
Recommended that clarification is provided in EN-7 on how nuclear facilities can be used to generate heat outputs	It is noted that the technology included within EN-7 is reflective of the Planning Act 2008. Given that nuclear may only be an NSIP within the Planning Act (as currently written) if it is part of an ‘electricity generating station’, EN-1 sets out a need for nuclear to produce electricity, with ‘combined heat and power’ a consideration that follows provided the ‘needed’ electricity will be generated above the NSIP thresholds.

Recommended that the text of EN-7 is clarified to note maximum anticipated effects of climate change	EN-7 notes that where the site for the proposed nuclear infrastructure is located on the coast or beside an estuary, lake, river or reservoir, the applicant must assess whether it could be protected against coastal erosion and other landform change scenarios, including the potential effects of climate change, considering the Credible Maximum Scenario.
Recommended that EN-7 makes note of Shoreline Management Plans and further clarification provided on erosion	EN-7 notes that the applicant should consider the relevant Marine Plans, Shoreline Management Plans and Coastal Change Management Areas (in Local Planning Authority local plans) and consider whether any activities would require a marine licence for the proposed location at an early stage if applicable. Note is also made in EN-7 that the applicant should consider existing knowledge of the risk of coastal erosion at any site located on the coast, historical coastal events in the region and the latest Shoreline Management Plan policy and National Coastal Erosion Risk Map. Marine Plans, River Basin Management Plans and capital programmes for maintaining flood and coastal defences and Coastal Change Management Areas should also be considered.
Recommended that clarification is provided on potential hazards	EN-7 now notes that the criteria is relevant for the potential hazards from major hazard sites and major accident hazard pipelines that could affect the nuclear infrastructure.
Recommended that greater reference made (where appropriate) to statutory bodies in Scotland and Northern Ireland e.g. in relation to transboundary effects.	EN-7 makes greater reference to relevant statutory bodies in Scotland and Northern Ireland. For example it now notes that the applicant should also make early contact with relevant statutory bodies in Scotland and Northern Ireland where there is the potential for transboundary effects on biodiversity and geological conservation.
Recommended that greater reference is made to the role of Local Authorities in the protection of the historic environment	EN-7 now clarifies that early engagement should take place with Historic England and / or Cadw, and relevant Local Authorities, on any measures that will be required to secure Development Consent in light of the expectations set out in any relevant National Policy Statements concerning the historic environment and heritage.
Recommended that more specific reference is made to the role of water companies when considerations are being made that may impact water resources	EN-7 now provides more context on role of water companies – for example it notes that early engagement should be made with water companies on any implications for drinking water resources
Recommended that clarification is provided to make clear that	EN-7 was amended to provide clarity on this issue and now notes ‘where the interim storage of

interim waste storage facilities are part of the infrastructure covered by EN-7 and therefore all considerations in EN-1 to EN-7 apply.	radioactive waste and/or spent nuclear fuel produced by the proposed nuclear infrastructure will be within the site of the proposed nuclear infrastructure, it will be considered part of the proposed nuclear infrastructure and so fall within the scope of this National Policy Statement, EN-1, and other relevant National Policy Statements. Geological disposal facilities are not within the scope of this National Policy Statement; please see the separate National Policy Statement for geological disposal facilities. The interim storage of radioactive waste and spent nuclear fuel is addressed in Section 2.6 of this National Policy Statement and throughout the document'. It was also clarified that there are a number of other references to interim storage in the various criteria of EN-7.

3.3. Stage C: Preparing the AoS Report

The AoS Report described the process undertaken in carrying out the AoS of the NPS. The document sets out the findings of the appraisals, highlighting any likely significant effects (both positive and negative, and taking into account the likely secondary, cumulative, synergistic, short, medium, and long-term and permanent and temporary effects), making recommendations for improvements and clarifications that may help to mitigate negative effects and maximise the benefits of the NPS, and outlining proposed monitoring measures.

The AoS Report detailing the outcomes of the Stage A, B and C accompanied the draft NPS out for public consultation in February – April 2025.

3.4. Stage D: Consulting on the NPS and AoS Report

The AoS Report was originally published for public consultation between February – April 2025.

A series of consultation responses from a range of organisations were received to both iterations of the AoS Report. How these responses were considered and taken into account is outlined in Section 4.

3.5. Stage E: Monitoring

Stage E will follow the adoption of the NPS. Chapter 10 of the AoS Report contains monitoring that helps to examine the effects predicted through the AoS process against the actual effects of the NPS when it is implemented. It is also a requirement

of the SEA Regulations to describe the measures envisaged concerning how significant effects of implementing the NPS will be monitored – Section 17 (1) notes "the responsible authority shall monitor the significant environmental effects of the implementation of each plan or programme with the purpose of identifying unforeseen adverse effects at an early stage and being able to undertake appropriate remedial action". As the Office of the Deputy Prime Minister (ODPM) Guidance advises, it is not necessary to monitor everything, or monitor an effect indefinitely, but rather monitoring needs to be focused on significant sustainability effects. Monitoring should therefore focus upon significant effects that may give rise to irreversible damage, with a view to identifying trends before such damage is caused, and significant effects where there was uncertainty in the AoS and where monitoring would enable preventative or mitigation measures to be undertaken.

Further detail is provided on Monitoring in Section 6.

4. How consultation responses have been taken into account

Consultation took place in respect of the Scoping Report and of the main AoS Report. Table 4.1 notes the responses made directly in respect of the AoS in response to the Scoping Report, or where comments were made in respect of the Approach to Siting New Nuclear Power Stations Beyond 2025 consultation, but which it was considered had implications for the AoS Report; and table 4.2 notes the responses made to the public consultation on the draft AoS. These tables set out how the consultation responses were addressed and note where amendments were made to the AoS Report.

Table 4.1 Scoping Report Consultation Responses

Consultation Response	Where addressed in the Main Report
Q1. Have there been any significant omissions of policies, plans or programmes relevant to the scoping of the AoS?	
Additions: • Levelling Up and Regeneration Act 2023 (including landscape duty on responsible authorities to further the statutory purposes of National Parks and Landscapes) • Note there is a new National Planning Policy Framework December 2023, although this does not change anything relevant to Natural England • Hedgerow Regulations 1997. These regulations make provision for the protection of important hedgerows in England and Wales. To facilitate the protection of those hedgerows, the Regulations apply to a wider class of hedgerows. This is relevant to heritage and landscape. • Local Nature Recovery Strategies Policy Paper June 2023 • The Biodiversity Gain Requirements Regs 2024 (various) • Making Space for Nature 2010 • Defra Policy paper: Notice of designation of sensitive catchment areas 2024: Notice of designation of sensitive catchment areas 2024 - GOV.UK • UK Peatland Strategy 2018 • England Peat Action Plan 2021 • Secure our peatlands' carbon store so they meet their contribution to Net Zero by 2050. This cannot be achieved by only restoring upland peat but will require significant changes to how we manage our lowland peat. • Protect and restore our peatland habitats so they are healthy, well-functioning ecosystems rich in wildlife. These wildlife rich peatlands will form a key part of our Nature Recovery Network. • Protect the historic environment of peatlands so the important evidence of our past can be preserved for the future, and ensure that restoration projects deliver cultural heritage, education and enjoyment, alongside other public goods. • MMO Marine Character Areas (2018) • Natural England (2023). Geoconservation: Principles and practice (NE802)	Noted – these have all been considered within the AoS and an overview of each is now included in Appendix C of the main report.

Q2. Do you agree that the baseline data that have been, or will be collected, are relevant and of sufficient detail to support the AoS?	
Agricultural Land and Soil Table 6: pg. 233 (B.6. Soils, Geology, Land use and contaminated land). The way the soil information is described is slightly confusing as three datasets are mentioned (SoilScapes; NATMAP; World Reference Base map), but only 2 described. Soilscapes is a 1:250,000 scale, simplified soils dataset showing 27 broad soil types covering England and Wales. It was created from the more detailed National Soil Map (NATMAPvector). Table 6: Page 237 (B.6. Soils, Geology, Land use and contaminated land). The Provisional ALC mapping is used as the baseline due to its national coverage, however it would be useful to describe both the Provisional ALC mapping and the current ALC grading system separately to clearly explain the differences between the two, including defining BMV. In addition, the Welsh Government have available more detailed ALC mapping for the whole of Wales (the equivalent for England is underway). *Suggest updating the text to:* The Agricultural Land Classification (ALC) grades agricultural land *"according to the degree to which its physical characteristics impose long-term limitations on agricultural use"* A combination of climate, site (topography) and soil characteristics and their unique interaction determines the limitation and grade of the land. In planning, ALC Grade 1, Grade 2 and Subgrade 3a land is termed 'Best and Most Versatile' (BMV), as defined by the NPPF (National Planning Policy Framework - Annex 2: Glossary - Guidance - GOV.UK (www.gov.uk)). The 'Provisional' Series of Agricultural Land Classification (ALC) maps were produced between 1967 and 1974 and were only intended as a strategic guide to land quality, primarily to support regional and county level planning. In 1988, significant revisions were made to the ALC methodology: The Revised guidelines and criteria for grading the quality of agricultural land (MAFF 1988). This included a split of Grade 3 into Sub-grades 3a and 3b as well as much more robust soil / climate assessments. These 1988 Guidelines remain the only approved system for grading agricultural land quality in England and Wales. The Provisional ALC data is published on Magic map at a scale of 1:250 000. However, this mapping is based on a superseded ALC methodology; only maps Grades 1, 2, 3, 4 and 5; and does not differentiate between Subgrade 3a and 3b (BMV terminology was introduced in 1987).	Noted – It is recognised that there are different soil maps available and this would need to be considered as part of any detailed scheme design. Suggested additional text added to the main report.

Worthwhile noting that Natural England has an archive of more detailed ALC surveys for selected locations undertaken according to the 1988 MAFF guidelines, including the subdivision of ALC Grade 3. These are known as the Post-1988 ALC surveys. These surveys were undertaken between 1988 and 1999. This data is considered accurate and reliable and can be found on magic map in the 'Post 88 ALC' Layer. Table 4-1, pg. 45. National soil maps. According to B.6. Soils, Geology, Land use and contaminated land, it is the derived info from these maps (i.e. soilscapes) being utilised in the Scoping, not the National Soil Maps (NATMAP). Natural England would promote the use of the NATMAP soils data given its increased detail. Table 4-1, pg. 45. Agricultural Land Classification – technically it is the Provisional ALC being used, which is based on a slightly different method of determination and grading, than the current ALC system (see above). The Likelihood of BMV is also available for England. Table 4-2 – Figure 8 is the Provisional ALC, not the ALC. There is a difference between these two (see above).	
Q3. Do you agree with the selection and definition of key sustainability issues?	
Key Issue 1: Biodiversity We support the inclusion of biodiversity as a key sustainability issue, recognising a declining trend. The importance of impacts at a landscape scale must be recognised, including considering fragmentation and isolation when identifying potential impacts on habitats and species. This is particularly relevant to the potential for large land requirements for nuclear development, particularly during construction and in delivering related infrastructure.	Noted regarding inclusion of biodiversity. Effect of large-scale land take up for nuclear projects is considered within AoS for a number of environmental topics.
Key Issue 2: Geodiversity We welcome the inclusion of geodiversity as a key sustainability issue, distinct from soils.	Noted
Key Issue 4: Adaptation to climate change The need for adaptation to allow for changes in habitats and species. For instance, the implications of new built development on coastal squeeze.	Noted - Coastal squeeze is already identified as an issue in the AoS Main Report (see Section 5.2 - Key issues Adaptation to Climate Change and Biodiversity).

Key Issue 7: Soil pg. 231 (B.6. Soils, Geology, Land use and contaminated land). In addition to contamination and moisture depletion, the biggest risks identified from nuclear energy use enabled by the Nuclear NPS on soils should include: land take (including BMV) / soil sealing; soil loss; and soil degradation. Furthermore, the reference to soil quality should be updated to soil health, particularly given the reference to soil health in the 25YEP. Pg 63. Key Issue 7. *'Soil and Contaminated Land – soil is a non-renewable resource and is vulnerable to erosion, degradation and contamination'* [also sealing]. Soil sealing reduces the area of land able to water to infiltrate. This links back to the statement in Nuclear National Policy Statement: AoS scoping report appendices volume 1 (publishing.service.gov.uk) (Appendix A) highlighting the need to recognise the synergies and dependencies on soil health such as use of natural flood management solutions, SUDS, climate change mitigation and adaptation [25YEP]. Similarly, the 25YEP aim that development is in the right places, avoiding our best agricultural land and in embedding the 'environmental net gain' principle reflects a natural capital approach in spatial planning which aims to minimise the impact of development on finite land and soil resources. Reference should also be made to increasing pressures of development on BMV agricultural land.	Noted – issue of soil sealing, soil loss and soil degradation is set out in AoS Report (Section 5.2 – Key issues) and is considered within the AoS Objective 9.
Key Issue 9: Landscape, Waterscapes and Townscapes: New landscape duty to further the statutory purposes of designated landscapes under LURA (Levelling Up & Regeneration Act) 2023	Noted – a review of the requirements of the Levelling Up and Regeneration Act 2023 has been added to the review of Plans and Policies within Appendix B of the main report.
Q4. Are there any key baseline data available that are or could be used in support of the issues that have not been identified?	
Key Issue 4: Adaptation to climate change Adaptation baseline summary covers additional points that could be included in the implications and opportunities section here. Such as, the impact on biodiversity from climate change in addition to development pressure having a change in ecology, phenology changes etc. (page 176 appendix B) Natural England's 'Climate Change Adaptation Manual' Second Edition 2020 (NE751) [NB this is included in Appendix A, but it is not clear how it has informed the assessment – similarly to the NE Carbon Storage and Sequestration by Habitat, 2021 report	Noted - Impact on biodiversity from climate change is identified as an issue under Biodiversity (Section 5.2 – Key issues) and covered in AoS Objective 3 question: Increase the resilience of biodiversity to the potential effects of climate change.

Key Issue 6: Water Nitrogen and Phosphorous Sensitive catchments as set out in *Defra Policy paper: Notice of designation of sensitive catchment areas 2024.*	Noted – this policy paper has been considered, and an overview is included within Appendix C of the main report.
Key Issue 7: Soil Pg 64. Key issue 7 – summary of likely evolution of baseline. Natural England have commissioned a research project to investigate the amount of land take occurring on agricultural land which has occurred since the last review, utilising the Provisional ALC; BMV likelihood; and Post -1988 ALC mapping.	Noted and reference added to Section 5.2 Key issues of the AoS Report.
Q5. Do you agree with the implications and opportunities that have been identified for the emerging NPS?	
Key Issue 1: Biodiversity Consideration also should be given to the total land area required to deliver new nuclear power. This includes the extensive construction sites, that although only temporary, have the potential to have significant permanent effects on habitats and species. There is some uncertainty as to the scale of new technologies and the potential co-location with other industry and associated infrastructure development. These may be co-dependent and with in-combination impacts. Given potential size of development, consideration must be given the potential landscape scale of impacts, and possible enhancements including those that can increase connectivity and link to Local Nature Recovery Strategies. We welcome the inclusion of BNG (Biodiversity Net Gain), although it should be recognised that this is a habitats based tool and other protection and enhancement measures will be needed for species. We welcome the inclusion of the potential for nature-based solutions delivered as part of the development to deliver multiple benefits. The potential for ecosystem services should also be considered in a wider context than BNG and be a consideration for choosing and identifying effects on proposed sites.	Noted – consideration of total land area required to deliver new nuclear power, landscape scale of impacts and recognition that Biodiversity Net Gain (BNG) is a habitats based tool and ecosystem services wider than BNG have been added in Section 5.2 of the AoS Report.
Key Issue 3: GHG emissions Welcome the recognition of the potential to maximise tree cover and peatland restoration which provide nature-based solutions. In addition to peatland restoration consideration should also be given to carbon storage in the site selection, for instance by avoid construction where it would cause the degradation of peat.	Noted. Degradation of peatland has been added as an issue in Section 5.2 Key issues of the AoS Report.

Key Issue 4: Adaptation to climate change Welcome the inclusion of nature-based solutions as part of the multi-functional green-blue infrastructure, there is the potential, given the size of nuclear power development and mitigation / enhancement requirements to deliver projects at a landscape scale that seek to adaptation to climate change. Recognise that due to location many areas will be a risk of sea level rise and coastal erosion associated with climate change. This will have an impact on coastal habitats that may be further impacted by coastal and flood defences relating to nuclear infrastructure, creating coastal squeeze. As raised for Key Issue 3 the importance of carbon stores in the natural environment (woodland and peat) should be a consideration of siting new nuclear power. AoS objectives: It is not clear here what is meant by 'maximise adaptation and resilience of climate change' in this context. Does it relate to delivering lower carbon energy through nuclear power or delivering development in a way that allows other aspects of the natural environment, such as biodiversity, to adapt and be resilient to a changing climate.	Potential to deliver projects at landscape scale that seek to adapt to climate change added together with coastal squeeze and carbon stores consideration in Section 5.2 Key issues of the AoS Report. The AoS objectives relate to delivering nuclear infrastructure that is adapted and resilient to climate changes as well as contributing to adaptation and resilience of communities, people, natural assets, habitats and species. The AoS Objective 2 has been re-worded as follows: Maximise adaptation and resilience of built assets, communities and people as well as natural assets, habitats and species, to the multiple effects of climate change
Key Issue 5: Air Quality We welcome the recognition that air quality impacts are most likely at construction and decommissioning stages, however, as these last many years for a nuclear power development the potential irreversible adverse effects of a long period of reduced air quality must be recognised when considering suitable sites and potential effects. In addition, there is some uncertainty around new technologies, also where they may be co-located with other development and associated infrastructure.	Noted – the issue of air quality is addressed via AoS Objective 8. Issue of uncertainty due to the non-spatial nature of EN-7 is recognised throughout the AoS, including potential cumulative effects with other developments.
Key Issue 6: Water Concern in section 5.2: abstraction can also cause environmental harm. It would be useful to confirm how operators seek licences for abstraction of water in estuaries and coastal locations. This has previously caused issues with regulating impacts at the point of abstraction. The section notes that 'The NPS should seek to protect	Noted – the issue of abstraction is considered within AoS Objective 7 and is addressed within EN-7 (as well as EN-1). For example, EN-7 also makes it clear that the

marine receiving waters from the impacts of any discharges' however front of pipe also causes issues. Natural England also notes that whilst nuclear has typically involved requirement of large volumes of water (direct cooling), it does not necessarily need to. This document should provide an opportunity to explore alternative approaches, namely indirect cooling e.g. closed loop or hybrid cooling solutions, for all locations – inland, estuarine, and coastal. Environment Agency may be able to advise on any revisions to their 2010 cooling water strategy. We understood they were reviewing it in 2022 but are not aware of any publication?	characteristics of the proposed cooling system needs to be provided, along with the specific implications of this on the marine, estuarine, riverine, groundwater, lake and / or reservoir environments. Different cooling technologies are addressed in EN-7 and considered in the AoS.
Key Issue 7: Soil The construction stage impacts on soil should be a considering, given the extensive land area required for construction compounds and supporting infrastructure. This should include consideration of the potential for restoration of construction site soils once development is completed. Implication for food security.	Noted – issues relating to soil are addressed via AoS Objective 9.
Key Issue 9: Landscape, Waterscapes and Townscapes Natural England disagrees with this approach due to changes made recently within the Levelling Up and Regeneration Act 2023. The combined categorisation and wording are not appropriate because they do not reflect the clear and significant differences between landscapes in terms of their designation status and roles in the land use planning system. The nationally designated landscapes – The National Parks, The Broads, and National Landscapes (legally designated as Areas of Outstanding Natural Beauty) are given the highest level of protection by national planning policy, plus there is a statutory duty on relevant authorities (public bodies, decision makers and utility providers) to seek to further the statutory purposes of these areas (Section 245 of the Levelling Up and Regeneration Act 2023). Other 'valued landscapes' are only identified and defined locally and in the context of a Local Development Plan and afforded a much lower level of protection, principally through local planning policies.	Issues relating to landscape, waterscape and townscape are addressed via AoS Objective 6. This notes that protection to landscapes is offered at various levels (e.g. national or local) and with different levels of protection afforded. The AoS recognises those areas of the very highest landscape value and protection, but notes that in exceptional circumstances, development may be permitted. The AoS also notes that in relation to those areas that are not nationally designated, but which may be highly valued locally and protected by local designation, the policies

	within local development plans that are based on landscape or seascape character assessment should be paid particular attention. However, local landscape designations should not be used in themselves to refuse consent, as this may unduly restrict acceptable development.
Key Issue 11: Economic activity Consideration of the economic impacts from land take – including impacts on agriculture and farm security from potential loss of agricultural land. AoS objective**:** support existing rural economy – not simply about provision of new economic opportunities	Noted – issues relating economic activity considered via AoS Objective 13 and notes that issues such as impact on the rural economy, loss of land, food security, farm viability are anticipated to be addressed in any scheme EIA.
Key Issue 14: Health and Wellbeing The implications of the loss of accessible greenspace, footpaths, national trails (including KCIIIECP– King Charles III England Coastal Path) should be considered in the addition to the creation of new. For instance, new nuclear development could result in lost links in the footpath network, including the KCIIIECP being pushed far inland. Construction stages impacts must be a consideration of siting – as they could last many years e.g. footpath routes.	Noted – issues relating to health and wellbeing are addressed via AoS Objective 11. This notes the potential for loss of recreational and amenity land or loss of access and reference is made to walking routes such as King Charles III England Coastal Path. Such issues would need to be considered as part of the detailed design of any scheme and EN-7 encourages early engagement with relevant authorities.
Q6. Do the AoS objectives and decision-making questions provide a sound framework against which to access the sustainability performance of the emerging NPS?	

The framework and 'guide questions' forms a useful structure for the AoS of the emerging NPS. We support the coverage of topics by the objectives. The use of guide questions can be useful in appraisal. However, it not always clear if the 'implications and opportunities' covered as part of the Chapter 5 have been incorporated into these questions. The link between the baseline / plans and programmes and guide questions is not clear, with some questions covering issues not addressed elsewhere, such as: *"Use carbon removals to offset residual emissions from energy such as Bioenergy with Carbon Capture & Storage (BECCS) and Nature Based Solutions?" Some clarification may be necessary on what 'minimise' would mean for questions under objective* 3, Biodiversity. **Agricultural Land and Soil** Pg 65. Key issue 7 – AoS Objective. Clear distinction between protecting soil resources and promoting development away from agricultural land should be made. Reference to Defra Construction Code should be made with regards to sustainable soil management (Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (publishing.service.gov.uk)). The criteria set out in Section 9 New Nuclear National Policy Statement for Nuclear Power Generation: Appraisal of Sustainability Scoping Report (publishing.service.gov.uk) 'Protect soil resources, promote use of brownfield land, and avoid land contamination', should also include: • Minimising the development (hardstanding) footprint (to minimise soil sealing) Change 'Ensure the protection of soil resources and reduce soil quality degradation?' to 'Ensure the protection of soil resources and avoid soil health degradation through sustainable soil management and re-use?'	Noted – Negative emissions technologies and their role in net zero identified under the Green House Gas emissions in Section 5.2 Key issues of the AoS Report and carried through to the AoS Framework. Defra Construction Code referenced with regards to sustainable soil management as part of implications in Section 5.2 Key Issues. Questions amended to reflect suggested text.
Q7. Do you agree that aligning the assessment scale of the emerging NPS with that of the AoS of EN-1 to EN-5 is a reasonable approach?	
Yes.	Noted
Q8. Do you have further suggestions regarding the scope of the AoS and it's proposed assessment of the new NPS?	
The details of the methodology for the assessment are limited, and more detail would be useful. To ensure the full consideration of likely effects of the NPS we would like the methodology to address: **Assessment process** • How the AoS will consider the implications of the NPS on the environment at all stages of any proposed nuclear power station development, from construction, associated	The AoS Report sets out the methodology / approach (including assessment scales) in sections 1 – 3 and as noted in section 2.4 an

infrastructure, operation, decommissioning and restoration potential. • In using site assessment criteria consideration should be given of the size of the site under consideration, for instance the size of the construction site, compounds and associated infrastructure could have substantial impacts. • Additional information should be included as to how significance will be defined and determined in the assessment. • In understanding cumulative and combined effects, more detail could be included on the other plans and programmes that will be delivering major infrastructure (or other large-scale development). For instance, those covering ports, strategic housing sites etc. • Consideration should be given to the interrelationship between topics in considering cumulative and synergistic effects. The assessment should recognise these effects as well as noting where there may be conflicts in between sustainability outcomes and how these may be addressed. • We strongly support an iterative approach to the AoS, where the AoS team are embedded in the policy making teams to allow the assessment to guide and shape the emerging NPS. • More detail on the purpose of the AoS e.g. to help identify appropriate measures to avoid, reduce or manage adverse effects and to enhance beneficial effects associated with the implementation of the revised NPS wherever possible. • More information on the AoS process and when we can next engage and how the responses from scoping will be considered.	iterative approach has been taken. The AoS has considered construction, operation and decommissioning phases. Cumulative and in-combination effects are set out in section 9 of the AoS Report. Next steps are set out in section 2.8 of the AoS Report. Note that one key limitation to the AoS is that the NPS is non-spatial. This means that some findings are necessarily generic / high level as the full detail of any potential scheme is not known at this stage.
Reasonable Alternatives • As required by SEA, the AoS needs to cover reasonable alternatives. All reasonable alternatives should be considered. This should include: ▪ Additional or alternative site criteria Setting targets and thresholds The type of nuclear power stations covered by the NPS.	Consideration of reasonable alternatives are set out in section 8 of the AoS Report. Note that the NPS is non-spatial. Details on the type of technology included in the NPS is set out in EN-7 and the AoS Report.

Monitoring The SEA Regulations require monitoring of significant environmental effects identified by the SEA. The EOR (Environmental Outcomes Reports) consultation May 2023 put further emphasis on monitoring of environmental outcomes. This is to ensure that the effects on the environment are as predicted, mitigation proposed prior to the decision is working and remedial action is able to be taken where required. The AoS will need to set out details on how monitoring will take place, a set of indicators, who will be responsible and any actions that it will trigger. Including monitoring as part of the assessment framework targets for assessment would support successful monitoring.	An AoS monitoring programme is set out in Section 10 of the AoS Report.

Table 4.2 Responses to the Public Consultation on the AoS (2025)

Consultation Response	DESNZ Response
We agree with the themes listed, but would advise that, in addition, the requirement to further the purposes of protected landscapes, introduced in the Levelling Up and Regeneration Act, should be included.	The relevant section identifies Themes at a higher level than would permit additional 'sub-themes' focussed on specific legal obligations or specific landscapes. The relevant section already identifies 'Landscapes and Townscapes' under the Built Environment and Natural Environment Headline Sustainable Development Themes and we are satisfied this is sufficient to include relevant landscape goals, including the legal duty to further the purposes of protected landscapes introduced by the Levelling Up and Regeneration Act.
On page 73 (baseline information relating to biodiversity and ecosystems): • We recommend the inclusion of all irreplaceable habitats, not just Ancient Woodland. The National Planning Policy Framework identifies ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen as irreplaceable habitats.	The Environment Themes set out in Section 4.3 of the AoS includes Irreplaceable Habitats broadly, and uses a non-exhaustive list to include Ancient Woodland and Ancient and Veteran Trees. Appendix B of the AoS, which sets out baseline information relating to biodiversity and ecosystems in more detail, identifies 65 priority habitats, which span terrestrial, freshwater, and marine environments.
On page 73 (baseline information relating to biodiversity and ecosystems): • We recommend the inclusion of SSSI Impact Risk Zones and functionally-linked land.	Noted. Assessments of SSSI condition are a crucial part of this AoS. Consideration of locations outside of SSSIs can complement assessments of the condition of SSSIs given the condition and extent of all species and

	habitats are to an extent mutually supportive and inter-dependent. In part to reflect this, this AoS has included a very wide range of indicators for the condition and extent of biodiversity and ecosystems, including priority habitats, biodiversity trend data, and protected species as well as sites, which are listed in AoS Appendix B. We are satisfied the extent of the baseline data and contextual information adequately complements assessments of SSSI condition with information on the state of the environment outside of those sites.
On page 73 (baseline information relating to biodiversity and ecosystems): • We seek clarity on which biodiversity targets are included and how opportunities for biodiversity are identified.	Noted. These are set out in Appendix B of the AoS.
On page 74 (baseline information relating to landscape, townscape & Seascape • We would like The Broads to be included alongside National Parks	The Broads is a National Park and is listed as one in the AoS Appendix B, alongside the other National Parks.
On page 74 (baseline information relating to landscape, townscape & Seascape • AONBs are now referred to as National Landscapes (this would also need updating on page 115)	Noted. The formal name for these areas in the relevant legislation is Area of Outstanding Natural Beauty.
On page 74 (baseline information relating to soils, geology and land use) • Table 5.1 needs to be clear that at present, it will be the Provisional ALC mapping which is used as the baseline due to its national coverage. However, it would be useful to describe both the Provisional ALC mapping and the current ALC grading system separately to clearly explain the differences between the two, including defining BMV. In addition, the Welsh Government have available more detailed ALC mapping for the whole of Wales (the equivalent for England is underway).	Further information on the Agricultural Land Classification system is set out in Appendix C, which provides a fuller explanation of the baseline information relating to soils, geology and land use.

On page 74 (baseline information relating to soils, geology and land use) • Where Nuclear development is proposed, the options appraisal should be accompanied by a detailed ALC survey to inform siting; the EIA; and soil management, and to demonstrate the mitigation hierarchy has been considered.	Noted. The AoS does not propose nuclear development in any specific locations or set requirements for nuclear developments relating to ALC surveys.
On page 75 (baseline information relating to water quality and resources): • We would like to draw attention to the impacts of water scarcity on water-dependent ecosystems. Water scarcity will be a key constraint on nuclear developments reliant on water abstractions. The Environment Agency has published a list of water stressed areas. Water companies' Water Resources Management Plans will also provide relevant information.	Noted.
On page 109 (soils) • We are pleased to see that the need to protect soils is recognised. We would like this to include consideration of the role that soils play as a carbon sink, with particular reference to peat soils. There is a risk of releasing carbon from soils through development, potentially counteracting the carbon-reduction ambitions of low-carbon energy generation.	Noted. The AoS notes the role peat plays in carbon sequestration, and the risk that development might disrupt this.
Table 6.1 (Appraisal of Sustainability Framework) • Objective 1 – we welcome the inclusion of Nature Based Solutions in the guide questions.	Noted.
Table 6.1 (Appraisal of Sustainability Framework) • Objective 2 – We would like to see the inclusion of the effects of water scarcity on habitats and species. We note that	Noted. The following two questions were included, and incorporate consideration of water scarcity caused by nuclear development and exacerbated by climate change:

drought and water scarcity are not mentioned in the guide questions.	• *Promote future proofing against the effects and risks of climate change (e.g. flooding, sea level rise, coastal erosion and change in weather patterns)?* • *Encourage design for successful adaptation to the predicted changes in weather conditions and frequency of extreme weather events (freezing, heat waves, intense storms)?*
Table 6.1 (Appraisal of Sustainability Framework) • Objective 3 – We would like to see consideration of the hierarchy of international, national and local designations, as well as to the mitigation hierarchy, within the guide questions. We are also keen that protected species and priority habitats are included.	Noted. We are satisfied the guide questions reflect the hierarchy of designations. Internationally designated sites are covered by Objective 4.
Table 6.1 (Appraisal of Sustainability Framework) • Objective 4 – We welcome the guide question that seeks to avoid loss or harm to Habitats Sites. In addition, as it is possible that not all impacts can be avoided, we would like to see guide questions involving the mitigation hierarchy.	Noted. We are satisfied the use of 'avoid' within the question is sufficiently broad to mean the application of the entire Mitigation Hierarchy.
Table 6.1 (Appraisal of Sustainability Framework) • Objective 5 – We welcome the guide question on landscape character and visual amenity. However, the wording appears confusing both in the SEA and the main document in terms of what landscape character is.	Noted. We are satisfied the wording is sufficiently clear, especially when taken in context with the section of the report where it appears.
Table 6.1 (Appraisal of Sustainability Framework) • Objective 6 – We strongly support the inclusion of a guide question on avoiding development in National Parks and National Landscapes. We note that Alternative 2 is considered better on four different themes but not considered a better alternative.	Noted. Our reasons for adopting the proposed National Policy Statement instead of the alternatives identified is explained in this Post Adoption Statement.

Table 6.1 (Appraisal of Sustainability Framework) • Objective 7 – We would like to see consideration of water temperature, particularly with regard to discharges of cooling water and the potential ecological impacts.	The AoS question incorporates the comprehensive range of metrics involved in determining water quality according to the Water Framework Directive, which will include within its Environmental Quality Standards relevant impacts on ecology due to discharges of cooling water. • *Protect ground, surface, estuarine and coastal water quality in line with Water Framework Directive and Marine Strategy Framework requirements?*
Table 6.1 (Appraisal of Sustainability Framework) • Objective 8 – We are pleased to see a guide question recognising the potential for air quality impacts on biodiversity in addition to human health.	Noted.
Table 6.1 (Appraisal of Sustainability Framework) • Objective 9 – We welcome the inclusion of a guide question on BMV land and another on protecting soil health. We would also like to see consideration of the function of peat soils in particular.	Noted. We are satisfied peat soils and their performance in sequestering carbon, and potential impacts on these soils from development, are considered in the AoS.
Page 165 (assessment made in relation to national and local protected sites). • Paragraph 2 notes that EN-7 recognises that biodiversity 'merits consideration' during initial site assessment and during the design stage. This wording appears loose.	Noted. We are satisfied the wording is sufficiently clear and that biodiversity merits consideration during the initial site assessment and during the design stage.
Page 166 (assessment made in relation to ecosystem function and processes, including in the marine environment): • We would expect to see more consideration of the marine environment, particularly in recognition of the fact that GW scale nuclear developments are likely to be in a coastal location. As well as marine plans, we would expect to see an appraisal of impacts on marine habitats and species.	Noted. We are satisfied Marine impacts, which are frequently addressed in the report, are properly assessed in the AoS.

Page 171: • As mentioned earlier, we would like to see all irreplaceable habitats considered alongside ancient woodland.	Noted. We are satisfied irreplaceable habitats are addressed sufficiently as part of the various categories of natural capital asset and/or habitat referred to throughout the document.
Page 172: • The conclusion is optimistic that significant beneficial effects are anticipated on biodiversity. However, we also note that on page 167 it is noted that 'the approach to Critical National Priority' has implications for the ultimate protection of environmental matters in certain situations but that is not included in this assessment'. We would welcome clarity on how beneficial environmental outcomes would be maximised even in cases of Critical National Priority.	Nuclear energy infrastructure is expected to provide beneficial impacts on biodiversity over the medium and long term, including in cases of Critical National Priority, through: - the mitigation of climate change (via the production of firm baseload energy which is low carbon, displacing fossil fuel generation previously used for this purpose) which is the largest threat to biodiversity in the UK and globally, even in locations where habitats are not disturbed by development or pollution, and - the implementation of substantial mitigation and compensation measures as a result of environmental criteria in EN-1, EN-7 and applicable legislation and regulation such as Biodiversity Net Gain.
Page 174: • We are pleased to see a range of potential impact types on Habitats Sites are recognised, including some points raised earlier in this response around water quantity and temperature as well as air quality.	Noted.
Page 198: • The conclusion in relation to soils appears inconsistent. The text starts off by saying that the effects would be minor negative and then goes on to say that the long-term significance of these effects remains uncertain, suggesting that the 'minor negative' conclusion is premature.	Noted. It is fair and appropriate to reach a tentative conclusion on the available evidence, whilst recognising areas which are less certain.
Page 203: • We note that national trails are listed on page 73, but there is no further mention of them in the guide questions or in the assessment. Only the King Charles III England Coast Path is specifically	The baseline information used for the AoS includes all the National Trails listed in Appendix C of the AoS.

mentioned. We would like to see consideration of all national trails.	

5. The reasons for choosing the NPS as adopted, in light of other reasonable alternatives considered

The NPS sets out national policy for the development of nuclear energy infrastructure and documents that there is a critical need for new low-carbon energy generating capacity in order to meet the government's energy objectives. When examining the reasons for choosing the NPS as adopted, it is important to understand the context within which the NPS was developed.

The Prime Minister's Plan for Change, and the Clean Energy Superpower and Growth Missions, depend on an increase in low carbon energy generation and the growth of private industry. Nuclear is a heavy industry which provides skilled jobs and produces secure, reliable low carbon energy in great quantities relative to the amount of land occupied and fuel consumed. Equally it could constitute, alongside sufficient renewables, a lower cost energy system which would improve living standards and the international competitiveness of most types of business in the UK economy.

The UK has a relative advantage in nuclear energy compared to most overseas competitors owing to the depth of its technical expertise and existing industry. The UK Modern Industrial Strategy recognises nuclear as part of one of the eight sectors of the UK economy ('IS-8') with high growth potential, which together are on average 27.1% more productive than the UK national average.

Within the context above, a number of reasonable alternatives were set out as in Table 5.1.

Table 5.1. NPS reasonable alternatives

Plan/Alternative	Description
EN-7	**The NPS applies criteria** to DCO applications for nuclear energy infrastructure as defined by Section 1.6 of EN-7. To secure development consent, the applicant must satisfy every criterion. The applicant has less flexibility in how they satisfy the criteria on population density and defence interests, as these criteria exclude some areas of land. Other criteria/matters must be assessed and SoS must be satisfied that these are

Plan/Alternative	Description
	acceptable, noting that it may be possible to mitigate against negative impacts. EN-7 does not specify what cooling technologies can be used, nor does it prohibit nuclear infrastructure development from any land apart from land which fails to satisfy the population density criterion or would be unacceptable regarding military activities (set out in EN-7 paragraph 2.7.16).
EN-7 Alternative 1	**As EN-7, but NPS provides full protection to highest priority designated habitats** (SAC, SPA, MCZ, RAMSAR) – nuclear infrastructure development will not be granted DCO where it will inevitably (i.e. after reasonably practicable mitigations) cause residual harm to those sites.
EN-7 Alternative 2	**As EN-7, but NPS provides full protection to highest priority designated landscapes and cultural sites** (national landscapes and heritage sites) – nuclear infrastructure development will not be granted DCO where it will inevitably (i.e. after reasonably practicable mitigations) cause harm to the visual character and cultural and/or historical significance of those sites.
EN-7 Alternative 3	**As EN-7, but NPS specifies the use of alternative cooling technologies** to mitigate the environmental impact of nuclear power station cooling water abstraction and discharge, and the visual impact of natural draft cooling towers and steam plumes.

Section 8 of the AoS Report sets out the assessment of reasonable alternatives in full, including how every alternative was compared to the proposed EN-7 with regard to Sustainable Development Themes, which themselves incorporate the range of Appraisal of Sustainability / Strategic Environmental Assessment objectives.

The key differences between the reasonable alternatives and the plan (EN-7) are set out below.

Alternative 1

In relation to the highest priority designated habitats (SAC, SPA, MCZ, RAMSAR), the approach taken by EN-7 means that DCO may be granted even though there is significant residual harm to those Habitat sites. Alternative 1 would provide full protection in relation to the same sites from residual harm through not allowing derogations.

In respect of climate change, it is considered this alternative would allow for better protection of Habitats sites than EN-7, including those which would have particular importance for sequestration of carbon (e.g. peat bogs, forests, grasslands, parts of the marine environment etc.). As such, it is considered inclusion of this alternative would have a Positive effect in respect of Climate change (Net Zero) targets.

However, in terms of security of energy supply, it is considered that an alternative provides full protection in respect of Habitats sites could potentially reduce the availability of otherwise suitable nuclear sites and reduce the likelihood of the UK meeting targets related to domestic low carbon energy generating capacity, as compared to EN-7. Restricting the potential for development could also reduce the overall economic output of the UK. As such, it is considered inclusion of this alternative would have a Negative effect in respect of security of energy supply.

Positive benefits could be anticipated from this alternative in respect of health and wellbeing as compared to EN-7. Such Habitats sites protect and maintain areas of the most valuable habitat, which, in addition to being of critical importance to biodiversity, are recognised as having health and wellbeing benefits to people through allowing access to nature and performing air and water pollution cleansing.

In economic terms, it is considered that this alternative could result in areas being excluded from potential nuclear infrastructure development as compared to EN-7. This could potentially reduce the availability of otherwise suitable sites. Such areas could lose out on economic benefits that would be anticipated from the development of nuclear infrastructure (well paid job opportunities, opportunities for suppliers etc.). As such, it is considered inclusion of this alternative would have a Negative effect in respect of the economy.

It is considered that this alternative would have no strategic implications for the built environment – the Habitat sites noted in this alternative relate to those sites designated at the highest level (European / International) for nature conservation. As such, it is considered inclusion of this alternative would have a Neutral effect in respect of the built environment in comparison to EN-7.

This alternative would provide for better protection for the Habitats sites as nuclear infrastructure development will not be granted be granted DCO where it will inevitably (i.e. after reasonably practicable mitigations) cause residual harm to those sites. As such, by protecting such areas, it is considered inclusion of this alternative

would have a Large Positive effect in respect of the natural environment in comparison to EN-7.

Alternative 2

In relation to the highest priority designated landscapes and cultural sites (national landscapes and heritage sites), the approach taken by EN-7 means that DCO may be granted where it will inevitably (i.e. after reasonably practicable mitigations) cause harm to the visual character and cultural and/or historical significance of those sites. Alternative 2 would provide full protection in relation to the same landscapes and cultural sites.

In relation to climate change, it is considered that this alternative allows for better protection for sites that, in addition to being National Landscapes, could include areas of importance for sequestration of carbon (e.g. peat bogs, forests, grasslands). As such, it is considered inclusion of this alternative would have a Positive effect in respect of Climate change (Net Zero) targets in comparison to EN-7.

However, this alternative could result in areas being excluded from potential nuclear infrastructure development. This could potentially reduce the availability of otherwise suitable sites and reduce the likelihood of the UK meeting targets related to domestic low carbon energy generating capacity. Restricting the potential for development could also reduce the overall economic output of the UK. As such, it is considered inclusion of this alternative would have a Negative effect in respect of security of energy supply as compared to EN-7.

In respect of health and wellbeing, it is considered that this alternative could result in protection of sites which would have benefits in terms of health and wellbeing. In short, such designated sites protect and maintain areas / features that can provide a ‘sense of place’ for people, as well as a connection to their heritage – this is widely recognised as having positive wellbeing effects. As such, it is considered that this alternative would have a Positive effect in respect of health and wellbeing.

In economic terms, it is considered that this alternative could result in areas being excluded from potential nuclear infrastructure development. This could potentially reduce the availability of otherwise suitable sites. Such areas could lose out on economic benefits that would be anticipated from the development of nuclear infrastructure (well paid job opportunities, opportunities for suppliers etc.). As such, it is considered inclusion of this alternative would have a Negative effect in respect of the economy in comparison to EN-7.

The built environment plays a key role in landscape and cultural sites. As such, an alternative which results in removing the potential for nuclear infrastructure development in those areas considered highest priority designated landscapes, or cultural sites would likely be significantly beneficial in ensuring that the quality and

setting of such features is maintained. As such, it is considered inclusion of this alternative would have a Large Positive effect on the built environment as compared to EN-7.

This alternative is focused on highest priority designated landscapes (national landscapes) and cultural sites and it is to be recognised that such areas play an important role in maintaining the natural environment, by restricting development that is not appropriate to the scale or context of the area. As such, by protecting such areas, it is considered inclusion of this alternative would have a Positive effect in respect of the natural environment as compared to EN-7.

Alternative 3

EN-7 promotes a range of cooling technologies which include direct wet cooling, indirect wet cooling, dry cooling and hybrid cooling. Alternative 3 excludes direct wet and indirect wet cooling from the mix of cooling technologies.

In terms of climate change, it is considered that this alternative would have no implications in comparison to EN-7. It is anticipated that all nuclear generating stations will produce energy in line with net zero targets, no matter the specific technical detail of how they are cooled. As such, it is considered inclusion of this alternative would have a Neutral effect in respect of climate change.

It is also considered that this alternative would not allow the full range of potential sites as set out in EN-7 to be utilised, with areas being effectively excluded from potential nuclear infrastructure development and as such would reduce the availability of otherwise suitable sites and reduce the likelihood of the UK meeting targets related to domestic low carbon energy generating capacity. As such, it is considered this alternative would have no implications in comparison to EN-7 and this alternative would have a Negative effect in respect of security of energy supply.

In terms of health and wellbeing, it is considered that this alternative would have no implications – it is anticipated that all cooling technologies will be operated in a manner which protects health of the local and wider population. As such, it is considered inclusion of this alternative would have a Neutral effect in respect of health and wellbeing.

In economic terms, it is considered that this alternative could result in less sites being potentially viable for the development of nuclear generating infrastructure with a result that some areas could lose out on economic benefits that would be anticipated from such development. As such, it is considered inclusion of this alternative would have a Negative effect on the economy in comparison to EN-7.

A range of alternative cooling technologies would potentially allow for consideration of greater / more effective mitigation of effects on those areas of landscape value –

i.e. some cooling technologies would allow for the removal of cooling towers, with beneficial effects on landscape. Similarly, this could better protect the setting of some cultural heritage assets. As such, it is considered inclusion of this alternative would have a Large Positive effect on the built environment.

Use of alternative cooling technologies would allow for a greater range of locations to be considered for the development of nuclear infrastructure, including areas which may have less environmental features of interest and thus lead to lower impacts. Alternative cooling technologies could mean that some pressures on the natural environment can be reduced or avoided. Such cooling technologies would have less requirement, or no requirement, to abstract or discharge large volumes of water therefore resulting in less or no impacts on receiving waters quantity and quality and on aquatic biodiversity. As such, it is considered that the use of alternative cooling technologies would allow for Potential Large positive effects on the natural environment to be realised.

Conclusion

The government's preferred option is to take forward the new nuclear EN-7. The Prime Minister's Plan for Change sets out Missions to Make Britain a Clean Energy Superpower and Kickstart Economic Growth, so the government will favour the proposal which offers the greatest benefits to security of energy supply and economic growth, whilst accepting that this will place more pressure on the Mitigation Hierarchy to prevent unacceptable harm to the other AoS considerations.

It should also be noted that while alternative 1 was deemed by the AoS to offer greater benefits for meeting climate change / Net Zero targets, that is a probabilistic finding which would only arise if a nuclear energy infrastructure project were to be built in a manner that would compromise the functioning of peat, woodland and other habitat which sequesters carbon. In the practice of siting and development of nuclear energy infrastructure, application of the Mitigation Hierarchy is expected to ensure that nuclear energy infrastructure will make a substantial positive overall contribution to mitigating and adapting to climate change, and meeting Net Zero targets.

6. Measures to monitor significant sustainability (including environmental) effects

Monitoring helps to examine the effects predicted through the AoS process against the actual effects of the NPSs when they are implemented. It is also a requirement of the SEA Regulations to describe the measures envisaged concerning how significant effects of implementing the NPS will be monitored – Section 17 (1) notes "the responsible authority shall monitor the significant environmental effects of the implementation of each plan or programme with the purpose of identifying unforeseen adverse effects at an early stage and being able to undertake appropriate remedial action". As ODPM Guidance advises, it is not necessary to monitor everything, or monitor an effect indefinitely, but rather monitoring needs to be focused on significant sustainability effects. Monitoring should therefore focus upon significant effects that may give rise to irreversible damage, with a view to identifying trends before such damage is caused, and significant effects where there was uncertainty in the AoS and where monitoring would enable preventative or mitigation measures to be undertaken.

While significant effects have not been identified in relation to all Objectives and it is considered that in many instances the NPS text provides robust policy to address issues, the non-specific spatial nature of the NPS does mean that there is in some instances a degree of uncertainty in findings and as such a potential for unforeseen individual or cumulative effects to arise. Therefore it was considered important to take a precautionary approach to monitoring. On this basis a monitoring programme was set out and is detailed in Chapter 10 of the AoS Report, to which reference should be made to the for further detail. The following sets out an overview of the rationale for monitoring for each AoS Objective; and Table 6.1 sets out the measures to be taken to monitor the significant environmental effects of implementing EN-7.

Objective 1. Reducing carbon emissions to Net Zero

It is considered that minor negative effects are predicted in the short (construction), medium (operation) and long (decommissioning) term reflecting the residual emissions from nuclear infrastructure associated with transportation and embodied carbon. These negative effects can be balanced by negative emissions through voluntary or sectoral arrangements but there is no certainty at present of when these arrangements will come into place. Significant beneficial effects are predicted in the medium term i.e. during operation due to the production of low carbon energy over the lifetime of the nuclear infrastructure. Decommissioning in the long term will likely bring temporary minor negative effects similar to those for construction but effects will eventually become neutral through the cessation of operational aspects.

Objective 2. Maximise adaptation and resilience to climate change

It is considered that the application of requirements in EN-1 and draft EN-7 will maximise adaptation and resilience to climate change of nuclear infrastructure

through promoting future proofing against the effects and risks of climate change in coastal, estuarine and lacustrine locations, and working with natural processes to minimise such effects and risks, with significant beneficial effects predicted over the short, medium and long term.

Objective 3. Enhance biodiversity and ecological networks, deliver biodiversity net gain, protect and support ecosystem resilience and functionality

It is considered that the policies set out in EN-7 (with reference to EN-1) thoroughly address the need to enhance biodiversity and ecological networks, deliver biodiversity net gain, as well as protect and support ecosystem resilience and functionality. EN-1, for example, notes that careful siting and use of appropriate technologies can help to mitigate adverse impacts on the environment and sets out an overarching principle in relation to protecting biodiversity, which is that development should at the very least aim to avoid significant harm to biodiversity interests, including through mitigation and consideration of reasonable alternatives. It is also set out that development proposals should seek opportunities to contribute to and enhance the natural environment by providing net gains for biodiversity where possible, and as part of good design. EN-1 also sets out that proposals should consider and seek to provide improvements to natural capital and ecosystem services (wider environmental net gain) when considering how to achieve biodiversity net gain.

In terms of nature conservation designations, EN-1 notes that the Secretary of State should ensure that appropriate weight is given to designated sites of international, national and local importance, protected species, habitats and other species of importance for the conservation of biodiversity. EN-1 suggests that development on land within or outside a SSSI which is likely to have adverse effects (either individually or in combination with other developments) should not be permitted but notes that an exception to this is possible where the benefits of the development in the location proposed clearly outweigh its impacts on the features of the site. The same level of protection through EN-1 is afforded to species and habitats that have been identified as being of principal importance for the conservation of biodiversity; it would need to be demonstrated that the benefits of and need for development outweighs the harm. However, it is also noted in this context that the Secretary of State should give substantial weight to any harm to the detriment of biodiversity features of national or regional importance. EN-1 also suggests that proposals should maximise opportunities to restore, create and enhance wider biodiversity, which could include consideration of Local Nature Recovery Strategies and national goals.

At the local scale, EN-1 suggests that Local Nature Reserves and Local Wildlife Sites require due consideration, but given the need for new energy generating infrastructure, these designations should not be used as the sole reason to refuse development consent.

Importantly, as described above, EN-7 adds new policy at two levels which could act to reduce the significance of negative effects. The requirement for applicants to assess, at the earlier site selection stage, whether the need to implement the mitigation hierarchy (set out in EN-1) may make one or more reasonable alternative sites more suitable than the proposed site. This may result in focusing new nuclear development sites in rural areas of lesser biodiversity value– focusing on such areas and not on those of higher value would allow for less effect on biodiversity and make an application more straightforward as there would be less requirement for mitigation and net gain would be easier to achieve. Then, during project development, in addition to the options for addressing the mitigation hierarchy set out in EN-1, the applicant must implement further possible mitigation or avoidance options including variations to building layout to avoid ecologically sensitive areas and on-site measures to protect habitats and species and to avoid or minimise pollution and the disturbance of wildlife. This will act to further reduce the significance of any negative effects on site and in the immediate vicinity, both during construction and operation.

It is therefore possible to conclude that there will generally be minor negative effects in the short and medium term to designated sites of international, national and local importance, protected species, habitats and other species of importance for the conservation of biodiversity as a result of nuclear development coming forward under EN-7. It would be only in the most exceptional circumstances, where it can be demonstrated that the benefit and need of the development outweighs the loss, harm or deterioration, that the Secretary of State would grant consent under the provisions of EN-1 for any such developments with resulting significant negative effects.

During operation, permanent structures associated with new nuclear development in the coastal, estuarine and lacustrine environment have the potential to alter aquatic processes and wave regimes and affect aquatic species. Such species can also be disturbed throughout operation from noise and changes to water quality from cooling water discharge, maintenance dredging or vessel movements. On land, permanent changes to surface water and groundwater hydrology due to the presence of buildings, foundations, roads and other infrastructure would also be expected during the operational phase potentially impacting surrounding habitats. It is therefore concluded that there will likely be significant negative effects during the operational phase.

Decommissioning could bring negative effects on biodiversity through potential habitat loss and disturbance due to the type of de-construction activities involved. However, mitigation measures such as those utilised during construction can reduce adverse effects, while beneficial effects could be experienced through the cessation of operational aspects such as cooling water discharge and the potential creation of new habitats and biodiversity enhancement through returning the land to previous land uses or other compatible uses.

Significant beneficial positive effects are anticipated in the medium and long term, through the clear approach noted in EN-1 of using the mitigation hierarchy and

delivering biodiversity enhancement through an obligation to deliver Biodiversity Net Gain outside national designations. This means that locally designated sites and other habitats areas onsite and/or offsite of a nuclear site will be enhanced as a result of nuclear development.

It is to be noted that the strategic nature of EN-7 and this AoS means that there is a degree of uncertainty in findings - all effects will clearly vary according to the type of impact, the specific location of the site, and the habitats and species affected.

Objective 4. Protect and enhance sites designated for their international importance for nature conservation purposes

EN-7 has been subject to Habitats Regulation Assessment (HRA) to determine whether the strategic plan poses a risk to habitat sites and whether it would result in likely significant effects, either alone, or in combination with other plans. Given the strategic nature of the draft EN-7 and the lack of geographically specific proposals, it allows for potential nuclear energy development to take place in any part of England and Wales and territorial waters. As such, it was not possible for the HRA to conclude that there will be no effects on the integrity of Habitat Sites as a result of development coming forward under the draft EN-7.

Therefore, there is potential for significant negative effects on Habitats Sites as a result of the plan implementation in the short, medium and long term. This could include on sites which are in the jurisdiction of other countries (transboundary). The effects identified are uncertain as they will depend on the specific locations and scale of development.

Objective 5. Protect and enhance cultural heritage assets and their settings, and the wider historic environment

It is considered that there is the potential for minor negative effects (including cumulative effects) on heritage assets in the short, medium and long term as a result of the potential impacts on heritage assets and their settings (with some uncertainty about the extent of direct effects such as disturbance and loss as these will be determined by location of any infrastructure in relation to the heritage assets). It is to be noted that some heritage assets such as shipwrecks are located offshore and may be in the legal ownership of or be of considerable historic interest to other countries (for example wrecks identified as war graves) and as such, there is a potential for trans-boundary effects. However, it is considered that all potential effects are addressed through the robust approach outlined in EN-7 (with reference made to EN-1).

Note is also made in EN-7 that engagement should take place with Historic England and / or Cadw, as well as relevant local authorities in respect of the historic environment and heritage and it is considered that this will help ensure full consideration of potential affects and how best to address these.

Objective 6. Protect and enhance the character and quality of the landscapes and townscapes and waterscapes and protect and enhance visual amenity

Significant negative effects for landscape, townscape and visual receptors are likely as a result of the implementation of EN-7 in the short, medium and long term and it is to be noted that due to the size of likely Schemes, opportunities for mitigation will be limited. Large scale generating sites are likely to have greater significant adverse effects, though it is considered significant effects are also likely for smaller SMR and AMR technology.

However, EN-7 (in combination with EN-1) sets out a robust approach to addressing impacts on landscape, townscape and seascape across the relevant timeframes. Although still considered significant, there is a potential for adverse landscape effects to be reduced as decommissioning progresses.

It is also worth noting that some areas may also consider existing infrastructure, including nuclear generating facilities, as reflective of local character, or a key element of the local landscape. As such, it cannot be assumed that all largescale development is automatically considered as negative. EN-7 notes that Good Design principles may enable the nuclear infrastructure to mitigate any negative visual impacts and potentially make a positive contribution to the character of its host location and community. Consultation is encouraged with a range of bodies, including local authorities.

Objective 7. Protect and enhance the water environment

Minor negative effects for water quality are likely as a result of the implementation of EN-7 in the short term through to the long term as it will not be possible to avoid all negative effects on the water environment, given the likely scale and nature of proposed nuclear developments, for example through construction activities as well as the need for cooling water abstraction and discharge. Across all timescales, there is potential for the measures outlined above, along with statutory requirements and controls to mitigate these risks, though some adverse effects will remain. These could be significant during operation, particularly if the cooling system requires large volumes of water. The effects identified are uncertain as they will depend on the specific locations and scale of development. Should a dry cooling system be used adverse effects may be minor during operation, given the mitigation and controls outlined.

Objective 8. Protect and enhance air quality on local, regional, national and international scale

While EN-1 notes a robust approach to managing effects on air quality, it is anticipated that effect on air quality is still expected to be slightly adverse, due to the potential for emissions of air pollutants at all life stages of a nuclear power station. The construction of a nuclear power station is likely to have some localised adverse effects on air quality in the short term, including dust and emissions from

construction vehicles, heavy goods vehicles (HGVs), and traffic movements generated by the construction workforce. This has the potential to affect residential properties along local access/haul routes in the immediate surrounding area as well as ecological receptors. It is anticipated that effects on air quality can be minimised through good construction practices such as effective dust suppression, careful management of earthworks and a robust monitoring programme and the adherence to required consent/permits. Operation is expected to generate emissions from plant / machinery and traffic which could potentially affect properties and ecological receptors. However, mitigation measures including promotion of sustainable transport (through robust transport planning) could successfully reduce emissions to acceptable levels. Similar effects on air quality from decommissioning to those during the construction phase are expected. However, emissions are anticipated to be lower than those during the construction phase because of expected advances in zero emissions vehicles and machinery by the time decommissioning takes place together with the need for less earth movements and less transportation of materials off the site as compared to construction. Adherence to similar mitigation measures as during the construction phase would also reduce effects.

Objective 9. Protect soil resources and avoid land contamination

Minor negative effects on soil resources are likely as a result of the implementation of EN-7 in the short, medium and long term due to the potential for loss of agricultural land and contamination of soil, potentially from spills of oil or chemicals used in the construction, operations and decommissioning of infrastructure. The effects identified are uncertain as they will depend on the specific nature, location and scale of development – loss of greenfield sites can be considered to be likely more significant than the re-use of brownfield / previously developed land.

The mitigation outlined in EN-7 (with reference to EN-1) has the potential to ensure that nuclear infrastructure development will avoid the best and most versatile agricultural land, where possible. Additionally, the requirement that development should not be given consent unless they have been considered by relevant pollution authorities is likely to minimise the potential for land contamination.

However, while it is considered that effects can be largely mitigated, the long term significance of these effects remains uncertain, as the effectiveness of the mitigation possibilities will depend on the individual sensitivities of the receiving sites, in the context of specific details of the development design, layout and operation.

Objective 10. Protect, enhance and promote geodiversity

There is potential for negative effects on geodiversity due to NPS implementation in the short, medium and long term, through loss of land / seabed, changes to coastal processes etc., particularly during construction. However, due to the potential for enhancement of geological features (or increasing access etc.) outlined in EN-1 and EN-7, there is also potential for minor positive effects in the medium to long term.

Nevertheless, it is important to note that the significance of any effects on geodiversity remains uncertain, and the effectiveness of the mitigation possibilities proposed will depend on the individual sensitivities of the receiving sites, in the context of specific details of the development design, layout and operation.

Objective 11. Improve health and well-being and safety for all citizens and reduce inequalities in health

Reliable energy supplies nationally will contribute to positive effects generally on the economy and skills with indirect positive effects for health and well-being in the medium to longer term through helping to secure affordable supplies of energy and minimising fuel poverty. Opportunities for employment (across the short, medium and long term) are also likely, with consequent beneficial effects on wellbeing.

EN-7 (with reference to EN-1) also makes clear recognition of the need to identify potential adverse health impacts, including on vulnerable groups within society and notes that opportunities should be taken to mitigate direct impacts by promoting local improvements to encourage health and wellbeing. Beneficial effects will be from the short through to the long term.

It is also made clear in EN-7 that safety systems are / will be in place in the designs of nuclear infrastructure and compliance with the UK's robust legislative and regulatory regime means that the risk of radiological health detriment posed by nuclear infrastructure (both during normal operation and as a result of an unplanned release) is extremely small. EN-7 notes that the risk of an accident involving nuclear facilities is extremely unlikely and sets out a range of aspects which deal with that issue. For example, note is made that nuclear facilities are designed and operated with multiple safety systems in place, using a 'Defence in depth' approach. As such, it is considered that any wider risk to health from development of nuclear generation is robustly addressed.

Objective 12. Promote sustainable transport and minimise detrimental impacts on strategic transport network and disruption to basic services and infrastructure

EN-7, supported by EN-1, provides for a robust approach to promoting sustainable transport, as well as minimising detrimental impacts on the strategic transport network and disruption to services and infrastructure. It also describes the need to undertake transport assessment and include Travel Plans and this would help to ensure that all aspects of effect on the transport network can be achieved. As such, while it is anticipated that uncertain effects may be experienced in the short (construction) term, benefits should be experienced across the later timescale of the development.

Objective 13. Promote a strong economy

Development of new nuclear generating infrastructure will support the security, reliability and affordability of the national energy supply and lead to the provision of

jobs in local areas to the development and further afield. Some of these jobs are likely to be specialist in nature, but others will be lower skilled, or suitable for apprenticeships or will provide opportunities to further develop skills. It is anticipated that most jobs would be during the construction phase, with significantly less jobs during operation and then an increase during any decommissioning phase. A significant increase in workers can lead to stress on local housing and labour markets (particularly in more rural areas / smaller towns), however, EN-7, with reference to EN-1, sets out a clear approach to addressing such issues. As such, some slight adverse effects are anticipated in the short term, but overall, there should be significant benefits in local areas during construction, with ongoing benefits through the medium to long term.

It is also important to note that the NPS will help to provide a robust and secure national supply of energy. This will have significant benefits across the wider economy, through for example allowing people and businesses to make long term investment decisions and could be expected to provide significant benefits through to the long term.

Objective 14. Promote sustainable use of resources and natural assets

EN-7, supported by the approaches outlined in EN-1, provides a robust approach to promoting sustainable use of resources and natural assets and notes how good design can reduce the requirement for consumption of materials and applying this to a project at as early a stage as possible will act to reduce consumption. Clear note is also made in EN-1 of a number of key aspects such as the waste hierarchy, and the requirement for waste management plans, as well as the sourcing of materials from recycled or reused sources and the use of low carbon materials. While there will be a high level of consumption of sources in the short term (construction phases), including virgin material, this will reduce during the operational phase and techniques such as the use of Building Information management tools (or similar) will provide opportunities in the long term for realising the recovery and reuse of materials used at the construction stage.

EN-7 sets out at length how waste specific to the nuclear industry is to be managed. This notes that most waste from nuclear sites can be disposed of to conventional facilities or specialised near-surface disposal facilities. However, some waste will require special handling and disposal, potentially for a significant period of time after the nuclear facility has stopped generating power. This will be achieved via the current and any future approaches set by the relevant Nuclear Regulatory bodies, with ultimately a geological disposal facility being developed. Prior to that, EN-7 makes note that there will be a requirement to demonstrate that there will be safe, secure and environmentally acceptable interim storage arrangements.

Table 6.1 Measures to monitor the significant environmental effects of implementing EN-7

AoS Objective	Monitoring Measure	Target	Data Source	Frequency	Responsibility for monitoring
1. Consistent with the national target of reducing carbon emissions to net zero by 2050	CO2 emissions from Nuclear sector (by source)	Reduce to pathway consistent with Net Zero targets	DESNZ: UK greenhouse gas emissions national statistics	Annual	DESNZ
2. Maximise adaptation and resilience of built assets, communities and people as well as natural assets, habitats and species, to the multiple effects of climate change	Area of flood risk (from all sources) constructed upon by new Nuclear infrastructure schemes	Zero	Environment Agency, Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)	Annual	Nuclear infrastructure scheme developers (in respect of individual projects) – reporting to DESNZ
	Number of new Nuclear infrastructure schemes designed for successful adaptation to climate change	All	Environment Agency, Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)	Annual	Nuclear infrastructure scheme developers (in respect of individual projects) – reporting to DESNZ
	Number of new Nuclear infrastructure schemes designed to include best practice SuDS (where appropriate) and / or upstream Natural Flood Management	Increase	Environment Agency, Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)	Annual	Nuclear infrastructure scheme developers (in respect of individual projects) – reporting to DESNZ

AoS Objective	Monitoring Measure	Target	Data Source	Frequency	Responsibility for monitoring
3. Enhance biodiversity and ecological networks, deliver biodiversity net gain, protect and support ecosystem resilience and functionality	Net Gain in Biodiversity (using the DEFRA metric) due to Nuclear infrastructure schemes	Increase in Biodiversity Net Gain	Natural England, Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)	Annual	Nuclear infrastructure scheme developers (in respect of individual projects) – reporting to DESNZ
	Number of Nuclear infrastructure schemes with overall adverse impact on sites designated for nature conservation	Year on year decrease	Natural England, Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)	Annual	Natural England, Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)
	Changes in areas of biodiversity importance (priority habitats and species by type) and areas designated for their intrinsic environmental value including sites of national, regional or sub regional significance	Year on year increase in area (ha)	Natural England, Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)	Annual	Natural England, Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)

AoS Objective	Monitoring Measure	Target	Data Source	Frequency	Responsibility for monitoring
	Area of Green Infrastructure created by Nuclear infrastructure schemes	Year on year increase in area (ha)	Natural England, Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)	Annual	Natural England, Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)
4. Protect and enhance sites designated for their international importance for nature conservation purposes (linked to separate HRA process for EN-7)	Condition of International and or European Sites	Year on year increase in improvement	Natural England, Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)	Annual	Natural England, Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)
5. Protect and enhance cultural heritage assets and their settings, and the wider historic environment	Change to heritage assets and their settings compared to a baseline assessment	Reduction in direct impacts	Natural England, Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)	Annual	DESNZ
	Number of heritage assets that are placed on or removed from the Heritage at Risk register as a result of development				
6. Protect and enhance the character and quality of the	Change in the quality of character or status of a	Reduction in direct impacts	Natural England, National Parks and AONB Management	Annual	DESNZ

AoS Objective	Monitoring Measure	Target	Data Source	Frequency	Responsibility for monitoring
landscapes, townscapes and waterscapes and protect and enhance visual amenity	designated area attributable to the Nuclear sector		Groups, Environment Agency and Nuclear infrastructure scheme developers (in respect of individual projects)		
	Changes in settings and views attributable to the Nuclear sector	Reduction in direct impacts	Natural England, National Parks and National Landscape Management Groups, Environment Agency and Nuclear infrastructure scheme developers (in respect of individual projects)	Annual	DESNZ
7. Protect and enhance the water environment	Number of water pollution incidents attributable to the Nuclear sector (across all waterbodies)	Zero	Environment Agency, Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)	Annual	Nuclear infrastructure scheme developers and Operators (in respect of individual projects / facilities) – reporting to DESNZ
8. Protect and enhance air quality on local, regional, national and international scale	Exceedances of Air Quality Objectives or limit values	Zero	DEFRA / Environment Agency, Local Authorities and Nuclear infrastructure scheme developers and	Annual	Nuclear infrastructure scheme developers and Operators (in respect of individual projects /

AoS Objective	Monitoring Measure	Target	Data Source	Frequency	Responsibility for monitoring
			Operators (in respect of individual projects)		facilities) – reporting to DESNZ
9. Protect soil resources, promote use of brownfield land and avoid land contamination	Area (in hectares) of best and most versatile land (BVAL) (grades 1,2 or 3a) included within or impacted by new Nuclear infrastructure schemes	Year-on-year reduction in the area of BVAL within or impacted by new Nuclear infrastructure schemes subject to loss or degraded quality.	Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)	Annual	Nuclear infrastructure scheme developers and Operators (in respect of individual projects / facilities) – reporting to DESNZ
	Area (in hectares) of previously contaminated land included within or impacted by new Nuclear infrastructure schemes	100% of previously contaminated land covered by new Nuclear infrastructure schemes subject to decontamination measures	Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)	Annual	Nuclear infrastructure scheme developers and Operators (in respect of individual projects / facilities) – reporting to DESNZ
10. Protect, enhance and promote geodiversity	Area (in hectares) of designated geodiversity sites (RIGS and / or SSSIs) included within or impacted by Nuclear infrastructure schemes	100% of designated geodiversity sites retained at their current condition or subject to improvement in their condition Year-on-year deduction in	Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)	Annual (subject to data availability)	DESNZ

AoS Objective	Monitoring Measure	Target	Data Source	Frequency	Responsibility for monitoring
		the % of geodiversity sites within or impacted by Nuclear infrastructure schemes subject to loss or degraded condition.			
11. Improve health and well-being and safety for all citizens and reduce inequalities in health	Households living in fuel poverty in areas of new Nuclear infrastructure schemes	Year on year reduction in numbers living in fuel poverty	Environment Agency, Public Health bodies including those in Devolved Administrations and Agencies	Annual	DESNZ supported by relevant authorities
12. Promote sustainable transport and minimise detrimental impacts on strategic transport network and disruption to basic services and infrastructure	Proportion of new Nuclear infrastructure schemes with Transport Management Plans that emphasise sustainable transport modes including public and active travel	100% of new Nuclear infrastructure scheme	Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)	Annual	Nuclear infrastructure scheme developers and Operators (in respect of individual projects / facilities) – reporting to DESNZ
13. Promote a strong economy with opportunities for local communities	GVA per capita and percentage change in employment in areas of new Nuclear infrastructure schemes	Increase	NOMIS / Office for National Statistics	Annual	DESNZ supported by relevant authorities

AoS Objective	Monitoring Measure	Target	Data Source	Frequency	Responsibility for monitoring
14. Promote sustainable use of resources and natural assets	Proportion of construction materials used in new Nuclear infrastructure schemes derived from alternative secondary and / or recycled sources.	100% of Nuclear infrastructure scheme employing reuse, recovery and recycling practices during construction	Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)	Annual	Nuclear infrastructure scheme developers and Operators (in respect of individual projects / facilities) – reporting to DESNZ
	Proportion (by mass) of waste arising associated with new Nuclear infrastructure schemes which is reused or recycled	Year-on-year increase in % of waste materials generated during construction being reused on-site	Local Authorities and Nuclear infrastructure scheme developers (in respect of individual projects)	Annual	Nuclear infrastructure scheme developers and Operators (in respect of individual projects / facilities) – reporting to DESNZ